

For Mortality, Busting the Myth of 10 000 Steps per Day

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When it comes to living longer, reaching the oft-repeated goal of 10 000 steps per day may not be necessary. Older women who walked more than their peers had lower death rates in a recent observational study in *JAMA Internal Medicine*, and the mortality benefit was seen with as few as 4400 steps.

Why This Matters

Most people, regardless of their age or fitness level, can walk at their own pace, making this form of physical activity widely accessible. And “steps per day” is easy to understand and measure with wearable technologies or smartphones. But for many older people, the idea of taking 10 000 steps every day can feel daunting, and this may discourage them from walking more.

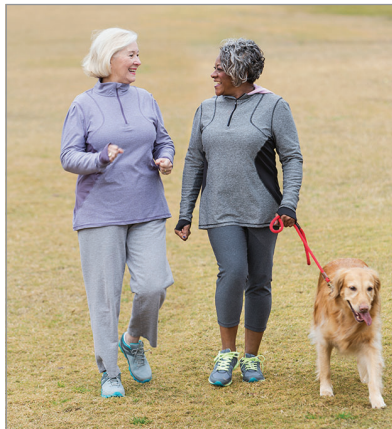
It turns out that there may be no scientific basis for the widely used number. Its likely origin: the brand name of a Japanese pedometer sold in 1965 called Manpo-kei, or “10 000 steps meter.” With all this in mind, the 2018 Physical Activity Guidelines Advisory Committee [asked for more research](#) on the dose-response relationship between daily steps and good health.

The Setup

Over the course of a week, 16 741 women with an average age of 72 years wore accelerometers during their waking hours. Researchers collected data from the devices on step volume and intensity over 4 to 7 days. The women were divided into 4 groups, or quartiles, from low to high, based on how much they walked. The researchers then tracked how many women died in each quartile over an average of 4.3 years of follow-up.

What We've Learned

- The women took an average of 5499 steps per day, a bit more than the smartphone-measured US average of **4800 steps**. During the follow-up, 504 women died.
- Women who averaged approximately 4400 daily steps had lower mortality rates than those who took about 2700 steps a day.
- There was a dose response, particularly at the lower, or inactive, end of the spectrum.
- There were additional declines in mortality among women who hoofed it more—but only up to about 7500 daily steps, beyond which the death rates leveled out.
- Walking faster or slower didn't appear to affect mortality rates when the number of steps was factored in.



A Caveat

This type of study can't definitively prove that walking more helps people live longer. It's possible that women in the study who were sick reduced their steps, for example. However, the researchers controlled for many factors that could have influenced the findings, including health status, age, diet, and lifestyle. They also reanalyzed the data, with similar results, after excluding women who may not have been in good

Steps and All-Cause Mortality

Quartile 1	Median steps per day: 2718
	No. deaths: 275
	No. of women: 4185
Quartile 2	Median steps per day: 4363
	No. deaths: 103
	No. of women: 4185
Quartile 3	Median steps per day: 5905
	No. deaths: 77
	No. of women: 4186
Quartile 4	Median steps per day: 8442
	No. deaths: 49
	No. of women: 4185

health based on factors like diabetes, cancer, or underweight.

What the Researchers Say

According to the study's lead author, I-Min Lee, MD, ScD, of Brigham and Women's Hospital and Harvard Medical School in Boston, the results likely apply to all individuals who are not very active, including men and younger women.

Lee told *JAMA*: “Step more—even a modest number of steps is associated with lower mortality.” And, she added, “all steps count,” not just those taken during exercise.

If you already get 10 000 steps or more per day, don't lower your goal. “There is no harm, and there may be additional benefits for outcomes not studied,” Lee said, like quality of life, physical function, and cognition. “We are continuing to follow the women in our study and hope to report on other outcomes in the future.” ■

Note: Source references are available through embedded hyperlinks in the article text online.